United Nations ST/SG/AC.10/C.3/2018/25

Secretariat

Distr.: General
3 April 2018

Original: English

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-third session
Geneva, 25 June-4 July 2018
Item 3 of the provisional agenda
Listing, classification and packing

Clarification of performance testing requirements for infectious substances packaging in Chapter 6.3

Transmitted by the expert from Canada*

Introduction

1. This paper proposes modifications to clarify the performance testing requirements for infectious substances packaging, as outlined in Chapter 6.3 of the Model Regulations.

2. The Table in 6.3.5.2.2, entitled "Tests required for packaging types" outlines the tests and number of samples required for the performance testing of packagings for transporting infectious substances. Within the table, the column entitled "Additional drop 6.3.5.3.6.3", requires an additional drop test be performed when the packaging is intended to contain dry ice. An "Explanation for use of the table" is provided below the table. The explanation indicates that "if the packaging is intended to contain dry ice, then one further single sample shall be dropped five times after conditioning in accordance with 6.3.5.3.6.3."

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

GE.18-05125(E)
1805125

Please recycle

"6.3.5.2.2 Tests and number of samples required

Tests required for packaging types

Type of packaging [a]			Tests required					
Rigid outer packaging	**Primary receptacle**		**Water spray 6.3.5.3.6.1**	**Cold conditioning 6.3.5.3.6.2**	**Drop 6.3.5.3**	**Additional drop 6.3.5.3.6.3**	**Puncture 6.3.5.4**	**Stack 6.1.5.6**
	Plastics	**Other**	**No. of samples**	**No. of samples**	**No. of samples**	**No. of samples**	**No. of samples**	
Fibreboard box	x		5	5	10	Required on one sample when the packaging is intended to contain dry ice.	2	Required on three samples when testing a "U"-marked packaging as defined in 6.3.5.1.6 for specific provisions.
		x	5	0	5		2	
Fibreboard drum	x		3	3	6		2	
		x	3	0	3		2	
Plastics box	x		0	5	5		2	
		x	0	5	5		2	
Plastics drum/ jerrican	x		0	3	3		2	
		x	0	3	3		2	
Boxes of other material	x		0	5	5		2	
		x	0	0	5		2	
Drums/ jerricans of other material	x		0	3	3		2	
		x	0	0	3		2	

[a] *"Type of packaging" categorizes packagings for test purposes according to the kind of packaging and its material characteristics.".*

Explanation for use of the table:

If the packaging to be tested consists of a fibreboard outer box with a plastics primary receptacle, five samples must undergo the water spray test (see 6.3.5.3.6.1) prior to dropping and another five must be conditioned to – 18 °C (see 6.3.5.3.6.2) prior to dropping. **If the packaging is to contain dry ice then one further single sample shall be dropped five times after conditioning in accordance with 6.3.5.3.6.3."**

"6.3.5.3.6.3 Packagings intended to contain dry ice – Additional drop test

Where the packaging is intended to contain dry ice, a test additional to that specified in 6.3.5.3.1 and, when appropriate, in 6.3.5.3.6.1 or 6.3.5.3.6.2 shall be carried out. One sample shall be stored so that all the dry ice dissipates and then that sample shall be dropped in one of the orientations described in 6.3.5.3.2 which shall be that most likely to result in failure of the packaging."

3. The text in explanation (in bold) is inconsistent with the requirement written in 6.3.5.3.6.3, which requires one sample be dropped in one of the orientations described in 6.3.5.3.2 and which shall be the one most likely to result in failure of the packaging. The explanation should not indicate that a sample be dropped five times, since 6.3.5.3.6.3 only indicates one drop. In addition, we find that requiring one sample to be dropped five times in one orientation would not be consistent with drop testing requirements applicable to other packagings. In order to correct the inconsistency between the "Explanation for use of the table" in 6.3.5.2.2 and the requirement outlined in 6.3.5.3.6.3, the expert from Canada proposes to remove the wording "five times" in the "Explanation for use of the table" in 6.3.5.2.2.

4. The "Explanation for use of the table" in 6.3.5.2.2 also states that the sample (intended to contain dry ice) be dropped "after conditioning". This contradicts the requirements of 6.3.5.3.6.3, which states that the additional drop test is a test additional to all other tests, including the conditioning requirements. In order to correct the inconsistency between the "Explanation for use of the table" in 6.3.5.2.2 and the requirements outlined in 6.3.5.3.6.3, the expert from Canada proposes to remove the wording "after conditioning" in the "Explanation for use of the table" in 6.3.5.2.2.

5. Other modifications to Chapter 6.3 brought forward in this proposal include:

(a) Modification to 6.3.5.3.1: 6.3.5.3.1 indicates that a drop test be performed but does not make any reference to the two associated but stand-alone clauses below it (6.3.5.3.2 and 6.3.5.3.3) which specify the drop test orientations for different packagings. The expert from Canada proposes to modify 6.3.5.3.1 to refer to "6.3.5.3.2 or 6.3.5.3.3, as appropriate";

(b) Modification to 6.3.5.3.3: 6.3.5.3.3 specifies the drop test orientations for drums, however, the table in 6.3.5.2.2, specifies that an outer packaging for infectious substances could be a jerrican. The expert from Canada proposes to modify 6.3.5.3.3 to include the term "jerricans" to account for this type of outer packaging;

(c) Modification to 6.3.5.3.3 (a) and (b): 6.3.5.3.3 (a) and (b) only specify drop orientations for packagings with chimes. To account for packagings which do not have chimes, the expert from Canada proposes to modify clause 6.3.5.3.3 (a) by borrowing the words of clause 6.1.5.3.1 to also indicate "or if the packaging has no chime on the top circumferential seam or edge" and to modify 6.3.5.3.3 (b) to indicate "or if the packaging has no chime on the base circumferential seam or edge";

(d) Modification to 6.3.5.3.3 (c): Clause 6.3.5.3.3 (c) specifies the drop orientation "flat on the side". To account for cylindrical drums which do not have "a side", the expert from Canada proposes to modify this sentence to indicate "flat on the body or side";

(e) Modification to 6.3.5.3.6.3: 6.3.5.3.6.3 specifies that a sample shall be dropped in one of the orientations described in 6.3.5.3.2. However, 6.3.5.3.2 only describes the drop test orientations for boxes, and does not account for orientations specific to drums or jerricans. The expert from Canada proposes to modify 6.3.5.3.6.3 to refer to both 6.3.5.3.2 "or 6.3.5.3.3, as appropriate", to account for the drop orientations for boxes as well as for drums and jerricans.

Proposal

6. Amend the first paragraph of the "Explanation for use of the table" in 6.3.5.2.2 to read as follows (deleted text in ~~strikethrough~~):

"*Explanation for use of the table:*

If the packaging to be tested consists of a fibreboard outer box with a plastics primary receptacle, five samples must undergo the water spray test (see 6.3.5.3.6.1) prior to dropping and another five must be conditioned to – 18 °C (see 6.3.5.3.6.2) prior to dropping. If the packaging is to contain dry ice then one further single sample shall be dropped ~~five times after conditioning~~ in accordance with 6.3.5.3.6.3.".

7. Amend 6.3.5.3.1 to read as follows (new text underlined):

6.3.5.3.1 Samples shall be subjected to free-fall drops, in accordance with 6.3.5.3.2 or 6.3.5.3.3, as appropriate, from a height of 9 m onto a non-resilient, horizontal, flat, massive and rigid surface in conformity with 6.1.5.3.4.

8. Amend 6.3.5.3.3 to read as follows (new text underlined):

6.3.5.3.3 Where the samples are in the shape of a drum or jerrican, three shall be dropped one in each of the following orientations:

(a) diagonally on the top chime or if the packaging has no chime on the top circumferential seam or edge with the centre of gravity directly above the point of impact;

(b) diagonally on the base chime, or if the packaging has no chime on the base circumferential seam or edge;

(c) flat on the body or side.

9. Amend 6.3.5.3.6.3 to read as follows (new text underlined):

6.3.5.3.6.3 Packagings intended to contain dry ice – Additional drop test

Where the packaging is intended to contain dry ice, a test additional to that specified in 6.3.5.3.1 and, when appropriate, in 6.3.5.3.6.1 or 6.3.5.3.6.2 shall be carried out. One sample shall be stored so that all the dry ice dissipates and then that sample shall be dropped in one of the orientations described in 6.3.5.3.2, or 6.3.5.3.3, as appropriate, which shall be that most likely to result in failure of the packaging.